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Uromyces euphorbiae C. & P.—Aecidium euphorbiae Am. Auct.

Uromyces lespedezae-procumbentis (Schw.) Curt., aecidium [leucospermum B. & C.], uredo and teleuto; autoecious.

Uromyces phaseoli (Pers.) Wint., aecidium, uredo and teleuto; autoecious.

Uromyces trifolii (A. & S.) Wint. aecidium, uredo and teleuto; autoecious.

NOTES FROM MYCOLOGICAL LITERATURE. IX.

W. A. KELLERMAN.

THE FIRST PART OF A KEY TO THE NORTH AMERICAN SPECIES OF INOCYBE — Sections Squarrosae and Lacerae, — is given by F. S. Earle in Torreya, 3:168-170, Nov. 1903.

THE FORM AND STRUCTURE OF THE MYCODOMATIA of Myrica cerifera L., is published in the Proceedings of the Academy of Natural Sciences of Philadelphia, 55:352-362, Pl. XVI-XVII, 1903, by John W. Harshberger. This is a new host for Frankia brunchorstii Möller; the author describes his investigations and observations, and says it is probable that this species " is more in the nature of an endotrophic mycorhiza, to be placed intermediate between the ectotrophic mycorhiza found on the Indian Pipe *Monotropa,* and the typical endotrophic mycorhiza found in *Thismia* and certain other plants, where a definite relationship is established between the nucleus of the host and the fungous hyphae." A chronological Bibliographical Index of 18 items, concludes the article. The hosts on which Mycodomatia have been reported to date are: Alnus glutinosa, A. incana, A. serrulata, A. undulata, Elaeagnus, Hippophae rhamnoides, Shepherdia, [Frankia alni (Möller) Atks.]; Myrica gale, M. cerifera [F. brunchorstii Möller]; Ceanothus americanus [F. ceanothi Atks.].

NUCLEAR DIVISIONS AND NUCLEAR FUSION IN COLEOSPORIUM SONCHI-ARVENSIS Lév., R. J. Holden and R. A. Harper, Trans. Wisc. Acad. Sci. Arts and Let. 14:63-82, Pl. I, II, Sept. 1903 (separate), outlines the study of the nuclear phenomena in the rusts by previous investigators, and details important investigations by the authors which agree in general with previous results. In regard to the life history of the Coleosporium the authors say: "From the teleutospore to the sporidium we find uni-nucleated cells; from the sporidium to the teleutospore we have bi-nucleated cells. . . . There is as yet no evidence of any proper cell fusion in the rusts though the fusion of the nuclei in the teleutospore has the essential characteristics of a sexual fertilization in the origin of the nucli and in the behavior of the teleutospore after fusion as described above. . . . . Sexual reproduction in the rusts may possibly dispense with cell fusion, while retaining the more essential feature of the union of nuclei more or less widely separated in origin."

THE ARTICLES IN THE REVUE MYCOLOGUIQUE, October 1903, besides the reviews are as follows: Mycorrhizes des arbres forestirs et sur le sens de la Symbiose des Racines, Georg F. L. Sarauw; L'Amanita mappa Fries estelle à ranger parmi les espèces très vénéneuses? R. Ferry et H. Schmidt.

IN REVISTA AGRONOMICA, DEZEMBRO DE 1903, J. VERISSIMO D'ALMEIDA ET M. DE SOUZA DA CAMARA, publish contributiones ad Mycofloram Lusitaniae, Centuria III. Four species are listed, and a new genus is proposed, namely, COUTINIA, Sphaeriaceae, a familia Dothideacearum praecipue differt stromate nullo. They also make correction of previous publication as follows: Puccinia maculicola n. sp. in *Urginea Scilla* est P. Asphodeli Duby, in Asphodeli sp.

ISLANDS SVAMPE AF E. ROSTRUP published in Botanisk Tidsskrift, 25:281-335, 1903, contains a list of 543 fungi. The author describes 22 new species: the diagnoses are in the latin language.

IN THE ANNALS OF BOTANY (17:167-236, PL. XII-XIII, JAN. 1903) is published an extended article by T. P. Barker, on The Morphology and Development of the Ascocarp in Monascus. "These considerations point to the view that Monascus represents a low and comparatively simple type of Ascomycete and is not far removed from a common ancestral type, from which all the higher Ascomyces may be supposed to have sprung."

ALBERT HOWARD, WHOSE INVESTIGATION ON SOME DISEASES OF THE SUGAR-CANE IN THE WEST INDIES is published in the Annals of Botany, 17:373-411, Pl. XVIII, March 1903, concludes that *Thielaviopsis ethaceticus* Went. (and not Melanconium sacchari Massee) causes a disease of cane-cuttings which is the same as the "pine apple" disease in Java; the 'rind' disease is caused by *Colletotrichum falcatum* Went.; the common root disease of the sugar-cane in Barbados is caused by Marasmius sacchari Wakker.

MISS E. DALE CONTRIBUTES AN INTERESTING AND IMPORTANT ARTICLE, OBSERVATIONS ON GYMNOASCACEAE, Annals of Botany, 17:571-596, Pl. XXVII-XXVIII, June 1903. The investigations "leave no doubt as to the occurrence of a sexual process in the Gymnoascaceae, if not in every species, at least in *Gymnoascus reesii* and in *G. candidus*. Such a process has not before been described, though it was assumed."

TWO FUNGI, PARASITIC ON SPECIES OF TOLYPOTHRIX (Resticularia nodosa Dang. and R. boodlei n. sp.) by F. E. Fritsch (Annals of Botany, 17:649-664, Pl. XXIX, Sept. 1903) is an important contribution to the knowledge of Fungi affecting algal hosts — nearly two hundred species now being known.

N. PATOUILLARD IN A NOTE SUR LE GENRE PAUROCOTYLIS BERK., Bull. Soc. Myc. France, 19:339-341, 31 Dec. 1903, publishes his study of Paurocotylis pila of New Zealand and P. fulva of Ceylon and concludes as follows: En résumé, Paurocotylis est un groupe d'Ascomycètes formé d'éleménts hétérogènes, duquel on devra retirer toutes les espèces que ne répondent pas au type du P. pila.

SUR L'IDENTITE REELLE DU SPHAEROPSIS MALORUM Peck, by G. Delacroix, Bull. Soc. Myc. France, 19:350-2, 31 Dec. 1903, refers to a previous publication by the same author, then states that he has had an abundance of material for study collected in various countries. He says Sphaeropsis malorum is different from both Diplodia maura C. & Ell. and Botryodiplodia mali P. Braunaud; Enfin le Sphaeropsis malorum Peck est absolutement identique à Diplodia pseudo-diplodia Fuck. Je considere, d'un autre côté, que le Macrophoma malorum (Berk.) Berl. et Vogl. n'est autre que le stade jeune du Sphaeropsis.

THE ARTICLES IN THE BULLETIN DE LA SOCIETE MYCOLOGUIQUE DE FRANCE, tome XIX, 4e Fascicule are as follows: Patouillard, Sur le genre Paurocotylis Berk.; Rolland, Note sul l'Inocybe repanda Bull. et l'Inocybe hiulca Fries; Delacroix, [Travaux Stat. Path. Veg.] Sur le "blanc" des feuilles de Mûries de Madagascar produit par Ovulariopsis moricola nov. sp. G. Del., A propos de Stromatinia linhartiana Prill. et Del. (Sclerotinia cydoniae Schellenberg), Sur l'identité réelle du Sphaeropsis Malorum Peck, Sur le parasitisme du Dothichiza populea Sacc. et Briard sur diverses espèces de Peupliers, Sur la pourriture des Pommes des terre; Empoissonnement par l'Amanita muscaria, par un Pleurote et une Clavaire.

MONOGRAPHIA UREDINEARUM, P. ET H. SYDOW, VOLUMEN I, FASCICULUS IV, appeared 1 November 1903. It includes pp. 593-768 and the serial numbers are 880 to 1094 inclusive. The species of Puccinia enumerated are those on the hosts belonging to Orchidaceae, Marantaceae, Cannaceae, Zingiberaceae, Iridaceae, Amaryllidaceae, Haemoraceae, Liliaceae, Bromeliaceae, Juncaceae, Cyperaceae, and Graminaceae. It might be noted that the authors do not adhere to strict priority in the use of names of polymorphic species. Thus they do not follow Arthur's name of *Puccinia sambuci* (Aecidium sambuci 1834, P. atkinsoniana 1897, and P. bolleyana 1889) but retain Puccinia bolleyana with the others as synonyms; again, *Puccinia hibisciata* (Sch.) Kellerm. (Aecidium hibisciatum Schw. 1834, Puccinia muhlenbergiae Arth. & Holw. 1902) is listed as P. muhlenbergiae Arth. & Holw. with other names as synonyms.

THE "BLUING" AND THE "RED ROT" OF THE WESTERN YELLOW PINE, with special reference to the Black Hills Forest Reserve, Hermann von Schrenk, a paper of 40 pages and 14 plates, forms Bulletin No. 36 of the Bureau of Plant Industry, issued 5 May 1903. Dr. von Schrenk finds the causes of the two phenomena to be fungi respectively as follows: Ceratostomella pilfera (Fr.) Winter, and Polyporus [Fomes] ponderosus von Schrenk n. sp. Later publication is promised.

R. E. B. MCKENNEY REPORTS IN BULLETIN NO. 51, Bureau of Plant Industry, on the Wilt Disease of Tobacco and its Control, saying microscopic examination of wilted Tobacco always reveals the presence of a fungus belonging to the genus *Fusarium* (Neocosmospora). This is found in the woody parts of the roots and stem. The Fusarium is a soil fungus and gains entrance to the plants through the *fine roots.*

OBSERVATIONS ON PHALLUS RAVENELII, BY HOWARD J. BANKER, Torreya, 4:5-8, Jan. 1904, pertains to an abundance of "eggs" from the size of a mustard seed to that of a walnut; also the mycelium in a pile of sawdust, that protected by a pile of lumber being a tangled network and filled with very irregular tubercular masses one-half to five centimeters in diameter. These tubercles or sclerotia appeared to be enlarged portions of the mycelial threads and were twisted, lobed and convoluted in a very irregular manner. The white color of mycelium and tubercles quickly turned bluish-purple on exposure to air.

IN BOTANISKA NOTISER FOER AR 1903, PP. 249-267, G. LAGERHEIM publishes an interesting article, Zur Kentniss der Bulgaria globosa (Schmid.) Fr. (Sarcosoma globosum et S. platydiscus Auct.), giving a history of this species, its occurrence and notes on its development. It was named Burcardia globosa by Schmidel in 1755; this name being preoccupied it was changed to Sarcosoma by Caspary. The author points out the insufficient grounds for maintaining this genus and says: Meines erachtens ist deshalb die Gattung *Sarcosoma* Casp. einzuziehen oder höchstens als ein subgenus der Gattung *Bulgaria* Fr. zu betrachten. A plate accompanies the article.

THE RESULTS OF THESE EXPERIMENTS PROVE that pear blight may attack apricot twigs and fruit — is the reported result in "An Apricot Blight" by Wendell Paddock, Bulletin 84, Colorado Agricultural Experiment Station, October 1903.

R. H. PETTIT, ENTOMOLOGIST, MICHIGAN AGRICULTURAL EXPERIMENT STATION, reports in Special Bulletin No. 17, a fungous disease of the Musquito — Entomophthora sp. nov., and a fungous disease of a scale insect (Lecanium longulum), namely, Isaria lecanifera Pettit n. sp. "No Isaria sporophores were seen but the fungus is placed in the genus *Isaria* because of its very close affinity to the Isaria stage of Cordyceps clavulata."

CLAVARIA MUCIDA PERS. AS GROWING ON ALGA-COVERED WOOD, said by Morgan "usually growing on a thin greenish stratum, Chlorococcus", is noted by W. C. Cooker in the Botanical Gazette, 37:62, Jan. 1904. The hyphae do not enter the alga and have no haustoria, but show about the same close relation (says the author) with the alga as in the case of the lichen, Collema. He adds: From its constant occurrence and close association with this alga there seems scarcely a doubt that *Clavaria mucida* is in the initial stages of becoming a basidiomycetous lichen.

IN THE BULLETIN OF THE TORREY BOTANICAL CLUB FOR JANUARY 1904, J. C. Arthur publishes New Species of Uredineae — III. The article includes two species of Uromyces, six species of Puccinia, two species of Ravenelia, one species of Uredo, five species of Aecidium; total sixteen species. Two third of the species are Trans-Mississippian and the remainder from Porto Rico. The author calls attention to the fact that with the exception of four species the descriptions are incomplete — including but one or two of the possible three, four or even more spore forms. A new species, Puccinia sieversiae, adds one to the very few belonging to this genus occurring upon *Rosaceae.* We note that the much-beridden Malvas are loaded with still another Aecidium (*Ae. malvicola*) — previously reported and well-distinguished species being Aecidium tuberculatum E. & K., Ae. napaeae A. & H. (*Ae. callirrhoes* E. & K.), and Ae. roestelioides E. & E.

J. BRESADOLA GIVES NINE NEW SPECIES, ALSO ONE NEW GENUS, under the title Mycologia Lusitanica, Diagnoses Fungorum novorum, in Broteria Revista de Sciencias Naturaes do Collegio de S. Fiel, 2:87-92, 1903. The new genus is Hyposcypha, a genere Dasyscypha differt deficientia pili genuini in ascomate.

OBSERVATIONS ON THE CYTOLOGY OF ARAIOSPORA PULCHRA Thaxter by Cyrus Ambrose King, forms No. 5 of Vol. 31 of the Proceedings of the Boston Society of Natural History, p. 211-245. It is an exhaustive paper accompanied by six heliotype plates. Literature is cited, 40 items, in chronological order from 1881 to 1901. A convenient summary is given covering two pages. The author refers the genus Araiospora to the Peronosporineae — "but should be placed between Pythium and the Saprolegniaceae."

IN AN ARTICLE BY FR. BUBAK AND J. E. KABAT, EINIGE NEUE IMPERFECTEN AUS BOEHMEN UND TIROL, Oesterreichische Botanische Zeitschrift, 54:22-31, Jan. 1904, nineteen new species are described. A new genus by Bubák is included of which he says: Besonderes Interesse verdient die neue Leptostromeceen-Gattung *Kabatia* von Lonicera xylostreum L. aus Tirol, welche eine schöne Parallelform zu *Leptothyrium* periclymeni (Desm.) Sacc. darstellt. But the spores are two-celled, strongly curved, sickle-form; the genus belongs in the Scolecosporae.

DIE WIRTSWECHSELNDEN ROSTPILZE, VERSUCH EINER GESAMTDARSTELLUNG IHRER BIOLOGISCHEN VERHAELTNISSE von H. Klebahn, is a volume of 447 pp. issued in 1904 by Gebrüder Bornträger, Berlin. This is a very important work bringing the extensive literature of this interesting subject together, necessarily incomplete however for the past year. The list of publications cited (articles by each author chronologically arranged) includes an alphabetical list of 286 authors.. The General Part includes such topics as Begriff des Wirtswechsels und Vorkommen desselben, Entwickelungstypen, Spezialisierungserscheinungen, etc. The Special Part outlines the history and results of the various experimenters, species by species, beginning with Puccinia graminis. An alphabetical index is given of the heteroecious species with their hosts, an Index of the Aecidia, and an Index of host plants.

THE GENUS PUCCINIA IS DISCUSSED WITH REFERENCE TO STABILITY OF NOMENCLATURE by J. C. Arthur in the Proceedings of the Indiana Academy of Science for 1902 (pp. 81-3). The name was used first by Micheli in 1729. Haller used the same previous to 1753 (initial date for priority), and again in 1768 but here not employing binomials. Adanson cites the name in 1763 but does not cite any species — hence the genus is not there established. The next oldest author for this name is Wildenow 1787 — giving the single species *P. simplex,* but the plant referred to was not a Rust; conclusion: perhaps Kuntze's use of Dicaeoma is to be followed.

H. W. CONN TELLS BRIEFLY, IN THE FIFTEENTH ANNUAL REPORT OF THE STORRS AGR. EXP. STA. (pp. 92-6), 1903, his results of extended studies on the Bacteria in freshly drawn milk, and points out the wide discrepancy between his work and that of Harrison and Cumming who found 95 per cent of bacteria belonging to the lactic types, whereas Conn detected less than 50 per cent. Reports by the former indicate that the milk ducts furnish bacteria by thousands per cubic centimeter of milk, whereas Conn shows that the uncontaminated milk contains only small numbers. The discrepancies are referred to the use by Harrison and Cumming of *ordinary* gelatin.

KULTURVERSUCHE MIT PAPILIONACEEN BEWOHNENDEN ROSTPILZEN, von Ernst Jordi, Centralbl. Bakt. Par. u. Infek. 2. Ab., 10:777-9, 3 Sept. 1903, extends our knowledge of the biology of these species, most of the results however simply confirming previous determinations. As Dietel formerly, so here Jordi, found that in case of Uromyces hedysari-obscuri aecidiospores may produce aecidia — "es ergiebt sich daraus ferner, dass die Aecidiosporen im stande sind, teils wieder Aecidien, teils direkt Teleutosporenlager zu bilden..."

D. McAlpine gives an account with illustrations of Ophiobolus graminis Sacc. and Hendersonia graminis n. sp., parasitic on and destructive to wheat, being the disease known as "Take all and White-heads in Wheat". The publication is Bulletin No. 9, Department of Agriculture, Victoria. It occurs also in other countries "and has recently been discovered in America. . . . Cordley describes a disease occurring in Oregon U. S. A., which has all the characteristics of this one, although only the fungus mycelium has been found."

Descriptio et adumbratio microscopio-analytica Fungorum is the title of a work, auctore D. Romano Adolpho Hedwigio, that unfortunately yet remains unpublished, sometimes cited ["Hedw. f. Fung. ined."] by DeCandolle in Flore Francaise, 1805, and the circumstances relating thereto so far as known, are detailed by J. C. Arthur under the title, An interesting unpublished Work on Fungi, Torreya, 4:21-3, Feb. 1904. Hedwig, son of the elder Hedwig in honor of whom the journal *Hedwigia* was named, was professor of Botany at Leipzig, and prepared a work on parasitic fungi "with a true talent" which A. P. DeCandolle undertook (unsuccessfully) to have published in Paris. Dr. Arthur who recently examined the manuscript says: — "It is a pity that so admirable a piece of scientific work should have met such an untoward fate. Even after a hundred years its publication would be a distinct gain to science."

The Mycological Articles in Hedwigia, Band XLII, Heft 6, 1903, are as follows: Hugo Glück, Beiträge zur Flechtenflora Heidelbergs (Schluss); P. Hennings, Ueber einige interessantere deutsche Hutpilze [perhaps a new species], Einige im Berliner Botanischen Garten 1903 gesammelte neue Pilze [17 new species], Biatorellina P. Henn, n. gen. Patellariacearum, Squamotubera P. Henn. n. gen. Xylariacearum, Ein stark phosphorescierender javanischer Agaricus (Mycena illuminans P. Henn. n. sp.), Ein Sklerotien-Blätterpilz, Naucoria tuberosa P. Henn. n. sp. ad inter; P. Magnus, Ein neues Helminthosporium, Bemerkungen zur Benennung einiger Uredineen in P. und H. Sydow's Monographia Uredinearum.

P. Magnus, in Beiblatt zur Hedwigia, 42:(305), 28 Dec. 1903, shows that Sydow's use of Puccinia obtegens (Lk.) Tul. in place of P. suaveolens (Pers.) Rostr. for the rust on Carduus arvense, is not justified. Link's name Caeoma obtegens did not appear until 1816 — Sydow's citation "Lk. Obs. II. p. 27 (1791)" not being correct, for as a matter of fact, "die Dissertatio secunda, in der p. 27 Caeoma obtegens Lk. aufgestellt ist, erschien erst in 1816, im 7. Bande des Magazins der Gesellschaft naturforschender Freunde zu Berlin p. 25-45"; but Persoon published his Uredo suaveolens in the year 1796.

THE REPORT OF THE STATE BOTANIST 1902, CHARLES H. PECK, N. Y. State Mus. Bull. 67:1-194, Pl. M, N, 82-4, 1903, contains the usual amount of mycological matter. We note 25 new species and varieties described, mostly the higher fungi; under the subhead of Edible Fungi are given popular accounts of Tricholoma subacutum Pk., T. radicatum Pk., T. silvaticum Pk., Hygrophorus pudorinus Fr., Lactarius luteolus Pk., Lactarius dulcis (Bull.) Fr., Russula crustosa Pk., and Cantharellus dichotomus Pk.; all of these are illustrated in color.

SUCCESSFUL CULTURES WITH CONIDIA OF CYSTOPUS CANDIDUS, as reported by Albert Eberhardt, in the Centralblatt f. Bakt. Par. u. Infek. 2. Abt. 10:655-6, 8 Aug. 1903, gave the following results: *from* Capsella bursa-pastoris, *on* C. bursa-pastoris, Lepidium sativum, Iberis amara, Arabis alpina; *from* Capsella heegeri, *on* C. bursa-pastoris, Lepidium sativum; *from* Lepidium sativum, *on* L. sativum, Capsella bursa-pastoris; *from* Brassica rapa, *on* B. rapa, B. oleracea, B. nigra, Sinapis arvensia, Diplotaxis tenuifolia; *from* Arabis alpina, *on* A. alpina, A. hirsuta, A. turrita, Lepidium sativum, Iberis amara, Cardamine pratensis, C. amara, Capsella bursa-pastoris, Senebiera coronopus.

THE ARTICLES OF SPECIAL INTEREST TO MYCOLOGISTS in Centralblatt f. Bakt. Par. Infekt. Zweite Ab., Bd. X, 1903, are: Müller-Thurgau, Der rote Brenner des Weinstockes; J. Ritzema Bos, Botrytis parasitica und Tulpenkrankheit; Beauaverie et Guilliermond, Etude sur le Structure der Botrytis cinerea; Ernst Jacky, Der Chrysanthemum-Rost, II; Neger, Neue Beobachtungen über des spontane Freiwerden der Erysipheen-fruchtkörper; P. Magnus, Kurze Bemerkung zur Biologie des Chrysanthemumrostes; Oscar Mayus, Die Peridienzellen der Uredineen; Eberhardt, Zur Biologie von Cystopus candidus; Osterwalder, Peronospora auf Rheum undulatum; Jordi, Kulturversuche mit Papilionaceen bewohnenden Rostpilzen.

MYCOLOGICAL ARTICLES OF CONSIDERABLE INTEREST published in the Zeitschrift für Pflanzenkrankheiten during 1903 are: D. Iwanowski, Ueber die Mosaik-krankheit der Tabakspflanze; P. Hennings, Einige Beobachtungen über das Gesunden Pilzkranker Pflanzen bei veränderten Kultur-Verhältnissen; J. Ritzema Bos, Der Brand der Narzissenblätter [Heterosporium gracile Sacc., parasitic]; C. J. J. van Hall, Das Faulen der jungen Schösslinge und Rhizome von Iris florentina und Iris germanica [Bacillus omnivorum, etc.]; E. Marchal, Die wesentlichsten Ergebnisse einer umfrage über den Getreiderost in Belgium; P. Hennings, Die an Baumstämme und Holz auftretenden teilweise parisitären Blätterschwämme.

DAVID GRIFFITHS DESCRIBES SEVEN NEW SPECIES OF SMUTS and publishes notes on others, with illustrations, which are based on collections made in 1902 and 1903. See Bulletin of the Torrey Botanical Club, 31:83-8, February 1904.

ERWIN F. SMITH AND DEANE B. SWINGLE HAVE ISSUED A VERY EXTENDED AND THOROUGH STUDY of the Dry Rot of Potatoes due to Fusarium oxysporum, cf. U. S. Dept. Agr. Bur. Pl. Inds'y. Bull .55:1-64, Pl. 1-VIII, Feb. 16, 1904. This same dis ease under the name Brown Disease was formerly (by C. E. Bessey, Science, N. S. 15:274, 14 Feb. 1902) referred to Stysanus stemonites which these authors say is not a true parasite.. The economic aspects are dealt with fully but the taxonomic as well receive proper attention. Synonomy with dates and quoted (and translated) descriptions occupies a page. The proper name to be used for this fungus, generally called Fusarium solani, is said to be Fusarium oxysporum Schlectendal (1824). One of the eight illustrative plates gives outline drawings of the mycelium, spores and germ-tubes.

THE GENUS POLYPORUS (THE POLYPORACEAE OF NORTH AMERICA — VI) is handled by William Alphonso Murrill in the January No. of the Bulletin of the Torrey Botanical Club. Of this he makes Polyporellus, Leucoporus, Cerioporus, and Melanopus synonoyms. The genus Polyporus was established by Micheli in 1729. Linneaus retained the name Boletus for all pore-bearing fungi, and it was Paulet (1793) who securely established the genus. "The general use of *Polyporus* instead of Boletus is chiefly due to Fries, who, without knowledge of Paulet's work, 'restored' the name in 1815 and made it popular in spite of Linnaeus". The species of Polyporus are mostly small dark-colored plants, attached to fallen branches and decaying wood on or near the ground. But P. caudicinus is large and affects living trees. A good synopsis of the 23 North American species precedes the enumeration with comments, synonomy and distribution. Two new names or combinations are made and three new species described.

NEW AND INTERESTING CALIFORNIA FUNGI BY EDWIN BINGHAM COPELAND, Annales Mycologici, 2:1-8, *pl*, I-II., Jan. 1904, contains descriptions of new species—three of Coprinus, one of Battarea, and one of Podaxon—and notes on Morchella conica, M. esculenta and M. hybrida, also a suggestion as to the Coprinus cystidia, namely, that they serve as props or braces to hold the lamellae apart. The author observes that in his C. alnicolus there can be no danger of the gills sticking together and cystidia are entirely wanting.

ANNALES MYCOLOGICI, VOL. II. NO. I, JAN. 1904, CONTAINS the following articles: Copeland, New and Interesting California Fungi; Petri, Naucoria nana sp. n.; Saccardo, Notae Mycologicae; Dietel, Ueber die Uredineengattung Pucciniostele Transchel et Komarov; Sydow, Neue und kritische Uredineen; Rehm, Ascomycetes Americae borealis; Höhnel, Mycologische Fragmente, Fortsetzung; Vuillemin, Le Spinellus chalybeus (Dozy et Molkenboer) Vuillemin et la Série des Spinellées; Salmon, Cultural Experiments with the Barley Mildew, Erysiphe Graminis DC.

ASCOMYCETES AMERICAE BOREALIS, AUTORE DR. H. REHM, Ann. Mycolog. 2:32-7, Jan. 1904, includes notes and descriptions of 16 species of Discomycetes, nearly all of which are new and interesting, collected by Lloyd, Durand, and Harper.

NEUE UND KRITISCHE UREDINEEN, II, VON H. U. P. SYDOW, Ann. Mycolog. 2:27-31, Jan. 1904, includes five new North American species belonging to the genera Gymnosporangium, Phragmidium, Uredinopsis and Uredo. A Gymnosporangium occurring on Libocedrus decurrens, California, was referred to (not described) by H. Mayr in "Die Waldungen von Nord Amerika" (1890) as "G. libocedri"—then (in 1898) referred to Phragmidium libocedri P. Henn. n.sp. by the latter mycologist. But the specimens destroyed by insects, spores not examined, etc., the Messrs. H. & P. Sydow think "so ist G. libocedri am besten ganz zu streichen." Their species, G. aurantiacum, occurs on the leaves of the host named—but Mayr's bildet Anschwellungen an den älteren Zweigteilen. Sydow's species and Hennings' Phragmidium may be the same thing, according to the former authors.

ELEMENTARY MYCOLOGY.

W. A. KELLERMAN.

It is intended to furnish a series of paragraphs for those who may wish to take up the general study of Fungi. It will be a brief as well as elementary treatment of the subject, calling attention first to the great number and varied character of the plants included in this group, their general structure and mode of life, and then giving an outline of the groups with such illustrations as may seem desirable for the needs of beginners.

MYCOLOGY. — This term is formed from two Greek words, *my-ces* meaning mushroom or fungus, and *logos*. The real or original meaning of the first Greek word is *slime* or mucus — and of course was used to designate these plants — or the peculiar material which in the early days was not really understood and not at all supposed to be closely allied in fundamental structure and mode of life to our common plants. Some of the plants